

Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

- 5 1. (Currently amended) A video signal processing system for encoding an encoding bit stream according to characteristics of a decoding bit stream, the encoding and decoding bit streams include a plurality of encoding schemes comprising intra encoding, predictive encoding, and bidirectionally predictive encoding, the video signal processing system comprising:
 - 10 a storage device utilized for storing data of the decoding bit stream and the encoding bit stream;
 - a decoder electrically connected to the storage device for decoding the decoding bit stream; and
 - an encoder electrically connected to the storage device for selecting at least one encoding scheme to encode the encoding bit stream according to a current encoding scheme for the decoder to decode the decoding bit stream such that the goal of limiting a maximum memory bandwidth required for encoding and decoding is reached when the decoder and the encoder operate concurrently.
- 20 2. (Canceled)
- 25 3. (Previously presented) The video signal processing system of claim 1, wherein when the current encoding scheme for the decoder to decode the decoding bit stream is bi-directional predictive encoding, the encoder prevents selecting bi-directional predictive encoding to encode the encoding bit stream to prevent bandwidth together used by the encoder and the decoder exceeds the maximum memory bandwidth.
- 30 4. (Canceled)

5. (Previously presented) The video signal processing system of claim 1, wherein when the current encoding scheme for the decoder to decode the decoding bit stream is the intra encoding, the encoding scheme for the encoder to encode the encoding bit stream is one of the intra encoding, the predictive encoding, and the
5 bidirectionally predictive encoding.

6. (Previously presented) The video signal processing system of claim 1, wherein when the current encoding scheme for the decoder to decode the decoding bit stream is the predictive encoding, the encoding scheme for the encoder to encode the encoding bit stream is one of the intra encoding, and the predictive encoding.
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7. (Previously presented) The video signal processing system of claim 1, wherein when the current encoding scheme for the decoder to decode the decoding bit stream is the bidirectionally predictive encoding, the encoding scheme for the encoder
15 to encode the encoding bit stream is the intra encoding.

8. (Original) The video signal processing system of claim 1, wherein the storage device is a memory, and the video signal processing system further comprises a memory interface for controlling access to the memory.
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9. (Canceled)

10. (Currently amended) A video signal encoding and decoding method for encoding an encoding bit stream according to characteristics of a decoding bit stream, the encoding and decoding bit streams include a plurality of encoding schemes comprising intra encoding, predictive encoding, and bidirectionally predictive encoding, the video signal encoding and decoding method comprising:
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- (a) checking a current encoding scheme of the decoding bit stream to decide an encoding scheme for encoding the encoding bit stream; and
- 30 (b) encoding the encoding bit stream using one of the plurality of encoding

schemes such that the goal of limiting a maximum memory bandwidth required for encoding and decoding is reached when the decoder and the encoder operate concurrently.

5 11-13. (Canceled).

14. (Previously presented) The video signal encoding and decoding method of claim 10, wherein when the current encoding scheme of the decoding bit stream is the intra encoding the encoding scheme of the encoding bit stream is one of 10 the intra encoding, the predictive encoding, and the bidirectionally predictive encoding.

15. (Previously presented) The video signal encoding and decoding method of claim 10, wherein when the encoding scheme of the decoding bit stream is the predictive encoding the encoding scheme of the encoding bit stream is one of the intra encoding and the predictive encoding.

16. (Previously presented) The video signal encoding and decoding method of claim 10, wherein when the current encoding scheme of the decoding bit stream is the bidirectionally predictive encoding, the encoding scheme of the encoding bit stream is the intra encoding.

17. (Original) The video signal encoding and decoding method of claim 10, wherein the decoding bit stream and the encoding bit stream are both accessed 25 through the same memory interface circuit corresponding to a memory.

18. (Original) The video signal encoding and decoding method of claim 10, wherein the encoding bit stream is an encoding bit stream corresponding to a picture.

30 19. (Original) The video signal encoding and decoding method of claim 10,

wherein the encoding bit stream is an encoding bit stream corresponding to a block of a picture.

20. (Original) The video signal encoding and decoding method of claim 19,
5 wherein the block is a macroblock.

21. (Original) The video signal encoding and decoding method of claim 19,
wherein the encoding scheme of the block is one of the intra encoding, the forward
motion compensation encoding, the backward motion compensation encoding, and the
10 bidirectional motion compensation encoding.

22. (Original) The video signal encoding and decoding method of claim 21
further comprising:

encoding the block according to the intra encoding when the encoding
15 scheme of the picture is the intra encoding.

23. (Original) The video signal encoding and decoding method of claim 21
further comprising:

encoding the block according to one of the intra encoding and the forward
20 motion compensation encoding when the encoding scheme of the picture is the
predictive encoding.

24. (Original) The video signal encoding and decoding method of claim 21,
further comprising:

25 encoding the block according to one of the intra encoding, the forward
motion compensation encoding, the backward motion compensation encoding, and the
bidirectional motion compensation encoding when the encoding scheme of the picture
is the bidirectionally predictive encoding.

30 25. (Original) The video signal encoding and decoding method of claim 21,

further comprising:

encoding the block according to one of the forward motion compensation encoding,
the backward motion compensation encoding, and the bidirectional motion
compensation encoding when the encoding scheme of the picture is the bidirectionally

5 predictive encoding.